What is claimed is:

1. In a process for preparing a binder composition, which comprises the steps of:

polymerizing acrylic acid monomer in water in the presence of a cure accelerator comprising sodium hypophosphite to form a phosphite regulated low molecular weight polyacrylic acid; and

subsequently reacting said low molecular weight polyacrylic acid with a polyhydroxy crosslinking agent in a crosslinking step to make a composition suitable for use as a component in a binder for fiberglass.

2. The process of claim 1, wherein said cure accelerator further comprises a constituent selected from the group consisting of sodium phosphite, potassium phosphite, disodium pyrophosphate, tetrasodium pyrophosphate, sodium tripolyphosphate, sodium hexametaphosphate, potassium phosphate, potassium polymetaphosphate, potassium polyphosphate, potassium tripolyphosphate, sodium trimetaphosphate, sodium tetrametaphosphate, and mixtures thereof.

3. The process of claim 2, wherein said cure accelerator is selected from the group consisting of sodium hypophosphite, sodium phosphite, and mixtures thereof.

4. The process of claim 1, wherein said low molecular weight polyacrylic acid has weight-average molecular weight ranging from 1000 through 10,000.

5. The process of claim 4, wherein the polyacrylic acid molecular weight is between 2000 and 6000.

6. The process of claim 1, wherein the polyhydroxy crosslinking agent is selected from the group consisting of triethanolamine, glycerol,

trimethylolpropane, 1,2,4-butanetriol, ethyleneglycol, 1,3-propanediol, 1,4-butanediol, 1,6-hexanediol, pentaerythritol, sorbitol, and mixtures thereof.

7. The process of claim 6, wherein said polyhydroxy crosslinking agent is selected from the group consisting of triethanolamine and glycerol.

8. The process of claim 1, wherein the molar ratio of hydroxyl groups in the polyhydroxy crosslinking agent to carboxylic acid groups in the polyacrylic acid ranges from 0.4 to 0.6.

9. The process of claim 8, wherein said molar ratio ranges from about 0.47 to about 0.52.

10. The process of claim 1, further comprising the step of diluting said composition suitable for use as a binder component with sufficient water to provide a binder mixture comprising up to 98 wt-% water.

11. The process of claim 10, wherein said binder mixture comprises about 50 to 60 wt-% water.

12. The process of claim 10, further comprising the step of adding a hydrolyzed silane coupling agent to said binder mixture.

13. The process of claim 12, wherein the weight of hydrolyzed silane coupling agent added is from 0.01 to 10 wt-% based upon the weight of said composition suitable for use as a binder component.

14. The process of claim 10, further comprising the step of adding a mineral oil dust suppressing agent to said binder mixture.

15. The process of claim 14, wherein the weight of mineral oil dust suppressing agent added is up to 20 wt-% based upon the weight of said composition suitable for use as a binder component.

16. The process of claim 10, wherein the weight of said composition suitable for use as a binder component ranges from 2 wt-% to 30 wt-% of said binder mixture.

17. A composition suitable for use as a component in a binder for fiberglass, comprising:

a polyacrylic acid polymerized from an acrylic acid monomer in the presence of a cure accelerator comprising sodium hypophosphite to form a phosphite regulated low molecular weight polyacrylic acid, and crosslinked by a polyhydroxy crosslinking agent.

18. The composition of claim 17, wherein said cure accelerator further comprises a constituent selected from the group consisting of, sodium phosphite, potassium phosphite, disodium pyrophosphate, tetrasodium pyrophosphate, sodium tripolyphosphate, sodium hexametaphosphate, potassium phosphate, potassium polymetaphosphate, potassium polyphosphate, potassium tripolyphosphate, sodium trimetaphosphate, sodium tetrametaphosphate, and mixtures thereof.

19. The composition of claim 18, wherein said cure accelerator is selected from the group consisting of sodium hypophosphite, sodium phosphite, and mixtures thereof.

20. A fiberglass insulation product, comprising:

glass fibers; and

a polyacrylic acid binder polymerized from an acrylic acid monomer in the presence of a cure accelerator comprising sodium hypophosphite to form a phosphite regulated low molecular weight polyacrylic acid, and crosslinked by a polyhydroxy crosslinking agent.